

**REMARKS**

In the Office Action<sup>1</sup>, the Examiner rejected claims 1-3 and 5-10 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,842,108 to Akiyama et al. ("*Akiyama*") in view of Japanese Patent No. JP8-98227 to Kudo ("*Kudo*"); and rejected claim 4 under 35 U.S.C. §103(a) as unpatentable over *Akiyama*, in view of *Kudo*, and further in view of U.S. Patent No. 6,549,120 to de Buda ("*de Buda*").

Applicants have amended claim 1. Claims 1-10 are pending in this application.

Applicants respectfully traverse the rejection of claims 1-3 and 5-10 under 35 U.S.C. § 103(a). The prior art cited by the Examiner, *Akiyama* in view of *Kudo*, does not teach or suggest each and every element of claims 1-3 and 5-10. A *prima facie* case of obviousness has, therefore, not been established.

Claim 1 recites a power line communication device including, for example:

a load control part provided between the impedance element and the external load and within the internal electronic control unit, the load control part controlled by receiving control signals from the internal electronic control unit to switch on/off the direct current,

(emphasis added). *Akiyama* discloses "a power supply integrated circuit, which enables reduction of size of vehicle apparatuses and allows power supply cable communication that is resistant to noise" (col. 1, lines 60-63). "LPF 11 is connected to the power supply cable 5. It blocks passage of a communication signal as a transmission signal . . . and selectively allows only the power supply voltage to pass, thereby inputting the power supply voltage to the regulator 13" (col. 5, lines 30-35).

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<sup>1</sup> The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

The Examiner states that ECU 8 constitutes the claimed "internal electronic control unit," and ECU 7 and 9 constitute the claimed "external electronic control unit" (Final Office Action at page 2). The Examiner also states that "the lock/unlock ACTUATOR in *Akiyama et al.* constitutes the claimed load control part provided between the impedance element and the external load" (Final Office Action at page 3).

In *Akiyama*, door ECU 9 "is a control unit for locking or unlocking the doors" (col. 5, lines 5-6). "The body ECU 8 is also configured such that it supplies power to each of internal circuits (such as a microcontroller) forming the ECU itself through a power supply IC 8a" (col. 4, lines 53-56). If the internal circuits in *Akiyama* could be considered the "external load," the "external load" would include a load, such as a motor and a circuit, in the ECU. Consequently, a circuit powered from the output labeled "to IC" in Fig. 2 of *Akiyama* is likely affected by noises generated in the motor because of a lack of an impedance element between the motor and the circuit. Thus, the destination of the power from regulator 13 is apparently the internal circuits in the power supply IC. Regulator 13 must intend to supply power only to the internal circuit in the power supply IC. Moreover, it appears that the DC voltage cannot be turned off.

*Akiyama* also states that ECU 9 "controls a door lock actuator according to the command included in the transmission signal" (col. 5, lines 14-16). Therefore, the door lock actuator, which is controlled by ECU 9, would be located external to ECU 8. Accordingly, even assuming that the door lock actuator constitutes the claimed "load control part," which Applicants do not concede, the door lock actuator is not provided "within the internal electronic control unit." Therefore, *Akiyama* does not teach or suggest the claimed combination of elements including, for example, "a load control part

provided between the impedance element and the external load and within the internal electronic control unit, the load control part controlled by receiving control signals from the internal electronic control unit to switch on/off the direct current,” as recited in claim 1.

The Examiner relies on *Kudo* for allegedly teaching the “known use of a load control by signal-over-powerline arrangement” (Final Office Action at page 3). Even assuming this assertion is true, *Kudo* fails to cure the deficiencies of *Akiyama* discussed above. *Kudo* discloses that power line 1 is supplied with a power supply having a frequency of 50/60Hz. This power line is a commercial power line, not a direct-current power line (English translation at paragraphs 0002, 0019, 0022). In addition, terminal block 10, in *Kudo*, includes an impedance upper 12 having such a resonance frequency that “an impedance may be made to increase only the frequency component” (English translation at paragraph 0019). However, *Kudo* does not teach or suggest the claimed combination of elements including, for example, “a load control part provided between the impedance element and the external load and within the internal electronic control unit, the load control part controlled by receiving control signals from the internal electronic control unit to switch on/off the direct current,” as recited in claim 1.

Accordingly, *Akiyama* and *Kudo* fail to establish a *prima facie* case of obviousness with respect to claim 1. Claims 2, 3, and 5-10 depend from claim 1 and are thus also allowable over *Akiyama* in view of *Kudo* for at least the same reasons as claim 1.

Regarding the rejection of claim 4, dependent from claim 1, the Examiner relies on *de Buda* for allegedly teaching “various modulation methods [that] can be used on a

power line" (Office Action at page 5). Even assuming this assertion is true, *de Buda* fails to cure the deficiencies of *Akiyama* and *Kudo* discussed above. *de Buda* discloses a power line communications system (col. 4, lines 30-51). However, *de Buda* does not teach or suggest the claimed combination of elements including, for example, "a load control part provided between the impedance element and the external load and within the internal electronic control unit, the load control part controlled by receiving control signals from the internal electronic control unit to switch on/off the direct current," as recited in claim 1. Therefore, claim 4 is also allowable over *Akiyama*, *Kudo*, and *de Buda* for at least the same reasons as claim 1.

Applicants respectfully request that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1-10 in condition for allowance. This Amendment should allow for immediate action by the Examiner.

Furthermore, Applicants respectfully point out that the final action by the Examiner presented some new arguments as to the application of the art against Applicants' invention. It is respectfully submitted that the entering of the Amendment would allow the Applicants to reply to the final rejections and place the application in condition for allowance.

Finally, Applicants submit that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration of the application and withdrawal of the rejections. Pending claims 1-10 are in condition for allowance, and Applicants request a favorable action.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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